

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-15 and 17-31 are pending in the application, with claims 1, 9, 17, and 25 being the independent claims. Claims 16 and 32-34 are sought to be cancelled without prejudice to or disclaimer of the subject matter therein. Claims 1, 6, 7, 9, 15, 17, 22, 23, 25, and 31 are sought to be amended. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 112

The Examiner has rejected claim 34 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. The Examiner stated that claim 34 was non-enabling since the claim recites only a single means (i.e., headend) and thus encompasses all possible means for performing a desired function.

Claim 34 is sought to be canceled, thereby rendering this rejection moot. Accordingly, Applicants respectfully request that the rejection of claim 34 under 35 U.S.C. § 112, first paragraph, be withdrawn.

The Examiner has rejected claims 6, 9-16, 22, and 25-32 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly

claim the subject matter which applicant regards as the invention. The Examiner stated that in each of claims 6, 15, 22, and 31, the meaning of the recitation of "said order is priority first come first served" is not understood. Applicants have amended claims 6, 15, 22, and 31 to address the foregoing issue. In particular, Applicants have removed the recitation of "said order is priority first come first served" from claims 6, 15, 22, and 31. Accordingly, Applicants respectfully request that the rejection of claims 6, 15, 22, and 31 under 35 U.S.C. § 112, second paragraph, be reconsidered and withdrawn.

The Examiner further stated that in claim 9, lines 9-10, and claim 25, line 13, it is improper to use parentheses in the claim since it is unclear as to whether the recitation within the parentheses is intended to be the claim limitation or not. Applicants have amended claims 9 and 25 to address the foregoing issue. In particular, Applicants have removed the parenthetical expression from claims 9 and 25. Furthermore, the amendment to claims 9 and 25 also applies to claims 10-15, which depend from claim 9, and to claims 26-31, which depend from claim 25. Claims 16 and 32 are sought to be canceled, thereby rendering the rejection as applied to claims 16 and 32 moot. Accordingly, Applicants respectfully request that the rejection of claims 6, 9-16, 22, and 25-32 under 35 U.S.C. § 112, second paragraph, be reconsidered and withdrawn.

Rejections under 35 U.S.C. § 102

The Examiner has rejected claims 9, 11-16, 25, and 27-32 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,546,017 B1 to Khaunte ("Khaunte"). Based on the following remarks, Applicants respectfully traverse.

Independent claim 9 is directed to a method for combining requests for bandwidth by a data provider for transmission of data over an asynchronous communication medium. The method of claim 9, as currently amended, includes:

receiving bandwidth requests from one or more data providers, each bandwidth request having a data provider identifier, a priority identifier, and an amount of required bandwidth;

calculating a data burst bandwidth by combining the amount of required bandwidth specified in bandwidth requests having the same data provider identifier and the same priority identifier; and

scheduling the granting of the data burst bandwidth to a data provider based on one or more quality of service parameters.

Khaunte does not teach or suggest each of the features of independent claim 9. For example, Khaunte does not teach or suggest "calculating a data burst bandwidth by combining the amount of required bandwidth specified in bandwidth requests having the same data provider identifier and the same priority identifier," as recited in claim 9.

Khaunte is directed to techniques for supporting differentiated priority levels within a Quality of Service (QoS) class within a packet-switched network (Khaunte at Abstract, lines 1-4). Khaunte describes calculating a priority index value for each received bandwidth request that is a function of the arrival time and priority class of each respective bandwidth request, and queuing the bandwidth requests in an order based upon their respective priority index values (Khaunte at col. 3, lines 65-67, to col. 4, lines 1-6). However, Khaunte does not anywhere describe "calculating a data burst bandwidth by combining the amount of required bandwidth specified in bandwidth requests having the same data provider identifier and the same priority identifier," as recited in claim 9.

Furthermore, the text of Khaunte cited by the Examiner as teaching the foregoing feature merely suggests queuing the packets (i.e., bandwidth requests) in an order based

upon their respective priority index values, but not calculating a data burst bandwidth by *combining* the amount of required bandwidth specified in the bandwidth requests.

Moreover, the Examiner conceded on page 6 of the Office Action that Khaunte "fails to disclose the step of combining each bandwidth requests having the same data provider identifier into a data burst bandwidth." Thus, Khaunte fails to teach or suggest all of the features of independent claim 9, as amended.

Similarly, independent claim 25 is directed to a system for combining requests for bandwidth by a data provider for transmission of data over an asynchronous communication medium. The system of claim 25, as currently amended, includes:

a headend; and

a scheduler coupled to said headend,

wherein said scheduler receives bandwidth requests from one or more data providers, each bandwidth request having a data provider identifier, a priority identifier, and an amount of required bandwidth,

wherein said scheduler calculates a data burst bandwidth by combining the amount of required bandwidth specified in bandwidth requests having the same data provider identifier and the same priority identifier,

wherein said scheduler schedules the granting of the data burst bandwidth to a data provider based on one or more quality of service parameters.

For the same reasons described above with respect to claim 9, Khaunte does not anywhere teach or suggest a scheduler that "calculates a data burst bandwidth by combining the amount of required bandwidth specified in bandwidth requests having the same data provider identifier and the same priority identifier," as recited in claim 25. Thus, Khaunte fails to teach or suggest all of the features of independent claim 25, as amended.

Since Khaunte fails to teach or suggest each and every feature of independent claims 9 and 25, as amended, Khaunte fails to anticipate claims 9 and 25. Furthermore, Khaunte fails to anticipate claims 11-15 and 27-31 for at least the same reasons as independent claims 9 and 25 from which they depend, and further in view of their own features. Claims 16 and 32 are sought to be canceled, and thus, the rejection of those claims under 35 U.S.C. § 102(e) is rendered moot. Accordingly, the Examiner's rejection of claims 9, 11-16, 25, and 27-32 under 35 U.S.C. § 102(e) is traversed and Applicants respectfully request that the rejection be reconsidered and withdrawn.

Rejections under 35 U.S.C. § 103

The Examiner has rejected claims 10 and 26 under 35 U.S.C. § 103(a) as being unpatentable over Khaunte in view of European Patent No. EP 0 573 739 A2 to Davis ("Davis"). Based on the following remarks, Applicants respectfully traverse.

As described above, Khaunte does not teach or suggest all of the features of independent claims 9 and 25, as amended. Furthermore, Davis does not supply the missing teachings. At a minimum, any combination of Khaunte and Davis fails to teach or suggest calculating (or a scheduler that calculates) a data burst bandwidth by combining the amount of required bandwidth specified in bandwidth requests having the same data provider identifier and the same priority identifier, as recited in claims 9 and 25, as amended.

Since neither Khaunte nor Davis, alone or in combination, teaches or suggests all of the limitations of claims 9 and 25, the combination of Khaunte and Davis fails to support a prima facie case of obviousness rejection of claims 10 and 26 for at least the

same reasons as independent claims 9 and 25 from which they depend, and further in view of their own features. Accordingly, the Examiner's rejection of claims 10 and 26 under 35 U.S.C. § 103(a) is traversed and Applicants respectfully request that the rejection be reconsidered and withdrawn.

The Examiner has rejected claims 1-8, 17-24, 33 and 34 under 35 U.S.C. § 103(a) as being unpatentable over Khaunte in view of U.S. Patent No. 6,359,901 B1 to Todd *et al.* ("Todd"). Based on the following remarks, Applicants respectfully traverse.

Independent claim 1 is directed to a method for combining requests for bandwidth by a data provider for transmission of data over an asynchronous communication medium. The method of claim 1, as currently amended, includes:

- receiving bandwidth requests from one or more data providers, each bandwidth request having a data provider identifier, a priority identifier that identifies a type of data to be transmitted, and an amount of required bandwidth;

- storing the bandwidth requests in a data structure so as to maintain an order in which the bandwidth requests were received;

- scheduling the bandwidth requests in an order to be serviced based on the priority identifier and the order in which the bandwidth requests were received;

- calculating a data burst bandwidth for each of the one or more data providers by combining the amount of required bandwidth specified in scheduled bandwidth requests having the same data provider identifier; and

- granting said data burst bandwidths to respective data providers over the asynchronous communication medium.

Neither Khaunte nor Todd, either alone or in combination, teaches or suggests each of the features of independent claim 1. For example, neither Khaunte nor Todd, either alone or in combination, teaches "calculating a data burst bandwidth for each of the one or more data providers by combining the amount of required bandwidth specified

in scheduled bandwidth requests having the same data provider identifier," as recited in claim 1.

As noted above, the Examiner conceded on page 6 of the Office Action that Khaunte "fails to disclose the step of combining each bandwidth requests having the same data provider identifier into a data burst bandwidth."

Furthermore, Todd does not anywhere teach or suggest calculating a data burst bandwidth for each of the one or more data providers by combining the amount of required bandwidth specified in *scheduled bandwidth requests*, as recited in claim 1. Rather, Todd only describes adjusting bandwidth allocations to slave stations based on information about the state of the network, including the number of messages a slave station might have in its queue. Todd does not anywhere describe adjusting bandwidth allocations based on *scheduled bandwidth requests* from the slave stations.

Similarly, independent claim 17 is directed to a system for combining requests for bandwidth by a data provider for transmission of data over an asynchronous communication medium. The system of claim 17, as currently amended, includes:

a headend; and

a scheduler coupled to said headend,

wherein said scheduler receives bandwidth requests from one or more data providers, each bandwidth request having a data provider identifier, a priority identifier that identifies a type of data to be transmitted, and an amount of required bandwidth,

wherein said scheduler stores the bandwidth requests in a data structure so as to maintain an order in which the bandwidth requests were received,

wherein said scheduler schedules the bandwidth requests in an order to be serviced based on said priority identifier and said order in which the bandwidth requests were received, and

wherein said scheduler calculates a data burst bandwidth for each of said one or more data providers by combining the amount of required

bandwidth specified in scheduled bandwidth requests having the same said data provider identifier, and

wherein said headend grants said data burst bandwidths to respective data providers over the asynchronous communication medium.

For the same reasons described above with respect to claim 1, neither Khaunte nor Todd teaches or suggests a scheduler that "calculates a data burst bandwidth for each of said one or more data providers by combining the amount of required bandwidth specified in scheduled bandwidth requests having the same said data provider identifier," as recited in claim 17.

Since neither Khaunte nor Todd, alone or in combination, teaches or suggests all of the limitations of claims 1 and 17, the combination of Khaunte and Todd fails to support a *prima facie* case of obviousness rejection of claims 1 and 17. Furthermore, the combination of Khaunte and Todd fails to support a *prima facie* case of obviousness rejection of claims 2-8 and 18-24 for at least the same reasons as independent claims 1 and 17 from which they depend, and further in view of their own features. Claims 33 and 34 are sought to be canceled, and thus, the rejection of those claims under 35 U.S.C. § 103(a) is rendered moot.

Accordingly, the Examiner's rejection of claims 1-8, 17-24, 33 and 34 under 35 U.S.C. § 103(a) is traversed and Applicants respectfully request that the rejection be reconsidered and withdrawn.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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